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ECONOMIC COMMISSION FOR ASIA AND THE FAR EAST

CAMBODIA, LAOS, THAILAND AND VIET-NAM

Committee for Coordination of Investigations
of the Lower Mekong Basin

ANNUAL REPORT FOR THE YEAR ENDING 31 DECEMBER 1961 ON SURVEY AND PREPARATION OF COMPREHENSIVE PROJECT REPORTS OF FOUR TRIBUTARIES IN THE LOWER MEKONG BASIN IN CAMBODIA, LAOS, THAILAND AND VIET-NAM

by

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I. INTRODUCTION

The United Nations Special Fund agreed to finance the survey and preparation of Comprehensive Project Reports for four tributaries in the Lower Mekong Basin situated in Cambodia, Laos, Thailand and Viêt-Nam.

II. PLAN OF OPERATION

While the project shall assist in the immediate development of the areas on the four selected tributaries, it will also be useful in the Committee's programme of investigations for the comprehensive development of the water resources of the Lower Mekong Basin as a whole.

The project contemplates survey of the development potential of the four tributaries, the selection of a definite multiple-purpose project, and preparation of a Comprehensive Project Feasibility Report for each tributary in a form acceptable to financial institutions as an application for an investment loan.

The United Nations was to act as Executing Agency for the United Nations Special Fund. A Plan of Operation was consequently signed on the 4th day of May 1960 by the Committee members on behalf of the Governments of Cambodia, Laos, Thailand and Viêt-Nam on one hand and by representatives of the Special Fund and the Executing Agency on the other hand.

III. AGRICULTURAL STATIONS

The project consists of two parts:

(a) Survey of the development potential of the four selected tributaries including preparation of preliminary plans;

(b) The establishment and operation of one agricultural experimental station in Laos and review of facilities in other three countries leading to the selection and design of one such station of about 200 to 300 hectares for the purpose of carrying out

/experimentation

experimentation in irrigation farming demonstrating suitable methods and training extension workers;

In accordance with Para. 8 of the Plan of Operation, the Executing Agency has entered into an agreement with the Food and Agriculture Organization (FAO) under which FAO shall provide directly or by contract the services contemplated in this respect of the Agricultural Station.

Report on the up-to-date position of the agricultural stations in the four countries will be made by FAO directly to the Executing Agency.

This report deals only with the four tributary projects which constitute part (a) of the project.

IV. FUNDS

In accordance with the agreement between the Special Fund and the Governments, the Special Fund is to contribute through the Executing Agency a sum of US$1,326,700 towards the cost of the project and the Governments of the four countries were to contribute a total of equivalent of US$142,000, towards local facilities each country to contribute equivalent of US$35,500 in its own currency. Details of these amounts are shown in the Plan of Operation referred to above.

Out of the above funds, US$851,700 have been allocated to the four tributary projects by the Special Fund and equivalent of US$101,000 as contribution by the four countries towards local facilities.

Details for Special Fund contribution are reproduced below from Para. 35 of the Plan of Operation:

/International Personnel

	US$
International Personnel	176,000
Contractual services	727,500
Miscellaneous	7,500
Total (Gross)	911,000
Less Governments contribution towards local facilities	101,000
Total (Net)	810,000
Add Executing Agency overhead cost	41,700
Total cost to Special Fund	851,700

V. CONTRACTS WITH ENGINEERING FIRMS FOR TRIBUTARY PROJECTS

As visualised in Para. 6 of the Plan of Operation, the Executing Agency, in agreement with the Committee, has entered into contracts with Engineering Firms for the survey and investigations of the four tributaries as detailed below:

A. A contract between the United Nations and SOGREAH[1] Corporation for engineering services for the planning, design and project evaluation of the Battambang River Project, a tributary of the Lower Mekong Basin in the riparian country of Cambodia, was entered into on the 24th day of February 1961 and the schedule date for completion is the 24th day of July 1963.

/B. A contract

1/ Société Grenobloise d'Etudes et d'Applications Hydrauliques of France

B. A contract between the United Nations and Nippon Koei Kabushiki Kaisha of Japan for engineering services for the planning, design and project evaluation of the Nam Ngum River Project, a tributary of the Lower Mekong Basin in the riparian country of Laos was entered into on the 17th day of February 1961 and the schedule date for completion is the 17th day of August 1962.

C. A contract between the United Nations and Rogers International Corporation of San Francisco, USA for engineering services for the planning, design and project evaluation of the Nam Pong River Project, a tributary of the Lower Mekong Basin in the riparian country of Thailand was entered into on the 21st day of October 1960. The schedule date for completion was the 21st day of February 1962, and since extended by two months.

D. A contract between the United Nations and Nippon Koei Kabushiki Kaisha Consulting Engineers of Japan for engineering services for the planning, design and project evaluation of the Upper Se San River Project, a tributary of the Lower Mekong Basin in the riparian country of Viêt-Nam was entered into on the 29th day of June 1961 and the schedule date for completion is the 29th day of October 1963.

The amounts to be paid to the selected contractors as full compensation for the work covered by the above four contracts are summarized below:

Name of project	In U.S. dollars	In local currency
Battambang	195,000	915,000 R
Nam Ngum	65,000	1,400,000 K
Nam Pong	224,991	1,095,000 B
Upper Se San	185,000 in Yen 10,000	1,382,500 P
TOTAL	679,991	

The corresponding figures in the Plan of Operation as reproduced in Section IV are:

Special Fund for contractual services	US$727,500
Governments' contribution for local facilities - Equiv. (Exclusion of counterpart contribution)	US$101,000

Under Special Fund contractual services, there is a saving of US$47,509.

VI. PROFESSIONAL STAFF

In accordance with Para. 10 of the Plan of Operation, the Executing Agency has engaged Mr. R. Berthelot as hydrometeorologist in agreement with the WMO from the beginning of the operation.

The Executing Agency has also engaged Mr. Kanwar Sain as Senior Engineering Consultant from 15 October 1961. In addition to his other duties Mr. Kanwar Sain is also working as "Project Engineer" in terms of Para. 26 of the Plan of Operation, under the general guidance of the Executive Agent.

The "Project Engineer" is to be responsible for direct supervision and for day to day decisions relating to the contracts entered into under the Plan of Operation. He is to provide the Committee with reports on progress of the investigations. This is the first annual report of the "Project Engineer" for the year ending 31 December 1961. One report was made by him to the Committee at the Sixteenth Session held in Phnom Penh 3-8 January 1962.

VII. VISITS TO THE PROJECT SITES

The "Project Engineer" has been able to pay one visit to Battambang Project in Cambodia in the second week of December, when he had a detailed look at the area to be irrigated as well as the proposed damsite. He has also had the opportunity of having a detailed discussion with Mr. J.M. Leblond, Project Manager on behalf of SOGREAH.

/It has not

It has not been possible for him to pay a visit to any of the other project sites so far.

VIII. PROGRESS TO END OF DECEMBER 1961

A. Battambang Project in Cambodia

Estimated amount of contract	US$195,000 / Riels 915,000
Total of bills presented to Special Fund to end of December	US$ 74,880
Percentage of expenditure up to end December to total	38.4%

The contractor was supposed to make the First Phase Report by end of February 1962. This report will now be delayed up to June 1962, as detailed contour plans from Canada for the area to be irrigated have been delayed and will now be delivered only in April 1962.

This delay in the submission of the First Phase Report will not however affect the date of submission of the Feasibility Report which is due in July 1963.

The visit to the project site by the "Project Engineer" has indicated that the work is very well in hand under the supervision of a very competent Project Manager.

Table A shows the percentage of progress for each item from commencement up to end of every calendar month.

/BATTAMBANG PROJECT (CAMBODIA) TABLE A

BATTAMBANG PROJECT
CAMBODIA

TABLE A

Percentage of each item of work completed to end of month

	% OF TOTAL	1961 MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1. MOBILIZATION OF STAFF	7.8	33	66	100	----------			COMPLETED			
2. FIELD SURVEYS AND COLLECTION DATA	33.4	-	4.16	14.7	25.7	34.6	38.7	45.6	55.6	60	62
3. LABORATORY TESTS	7.4	-	-	-	2	2	7.0	14.9	17.0	20.2	23.4
4. REPORT OF INVESTIGATION	13.4	-	-	-	-	-	5.3	14.2	21	36.2	61.2
5. ENGINEERING STUDIES	11.8										
6. BENEFIT STUDIES AND ECONOMICS	4.4										
7. PRELIM. DESIGNS AND COST ESTIMATES	17.6										
8. REPORT OF FEASIBILITY	4.2										
TOTAL JOB	100		.06	12.7	16.5	19.5	21.9	26	30.2	34.1	38.4

CONTRACTOR - SOGREAH CORP.

Beginning of contract 24 Feb. 1961 Contract amount US$ 195,000

Completion of contract 24 July 1963 Riel 915,000

Graph A shows the amount of monthly bills in US dollars as presented by SOGREAH to the Special Fund. These figures are taken from the monthly progress reports and are in proportion to the progress of work.

Amounts in local currency were paid to the company on the following dates:

1 April 1961	200,000	Riels
18 April 1961	200,000	Riels
19 July 1961	250,000	Riels
18 October 1961	265,000	Riels
Total	915,000	Riels

According to Para. 5.02 of the contract, the above sum represents the total amount in local currency and no other payment is to be made to the company in local currency.

Upto 31 December 1961, 38.4 percent of the work has been completed. The balance 61.6 percent will, it is hoped, be completed in 1962 and 1963 according to the schedule.

B. Nam Ngum Project in Laos

Estimated amount of contract	US$ 65,000 + 1,400,000 Kips
Bills received up to end December 1961	US$ 31,135
Percentage of expenditure up to end December to total	47.9%

Due to conditions of security, work has been carried on by the contractor in such localities, which were accessible by his engineers.

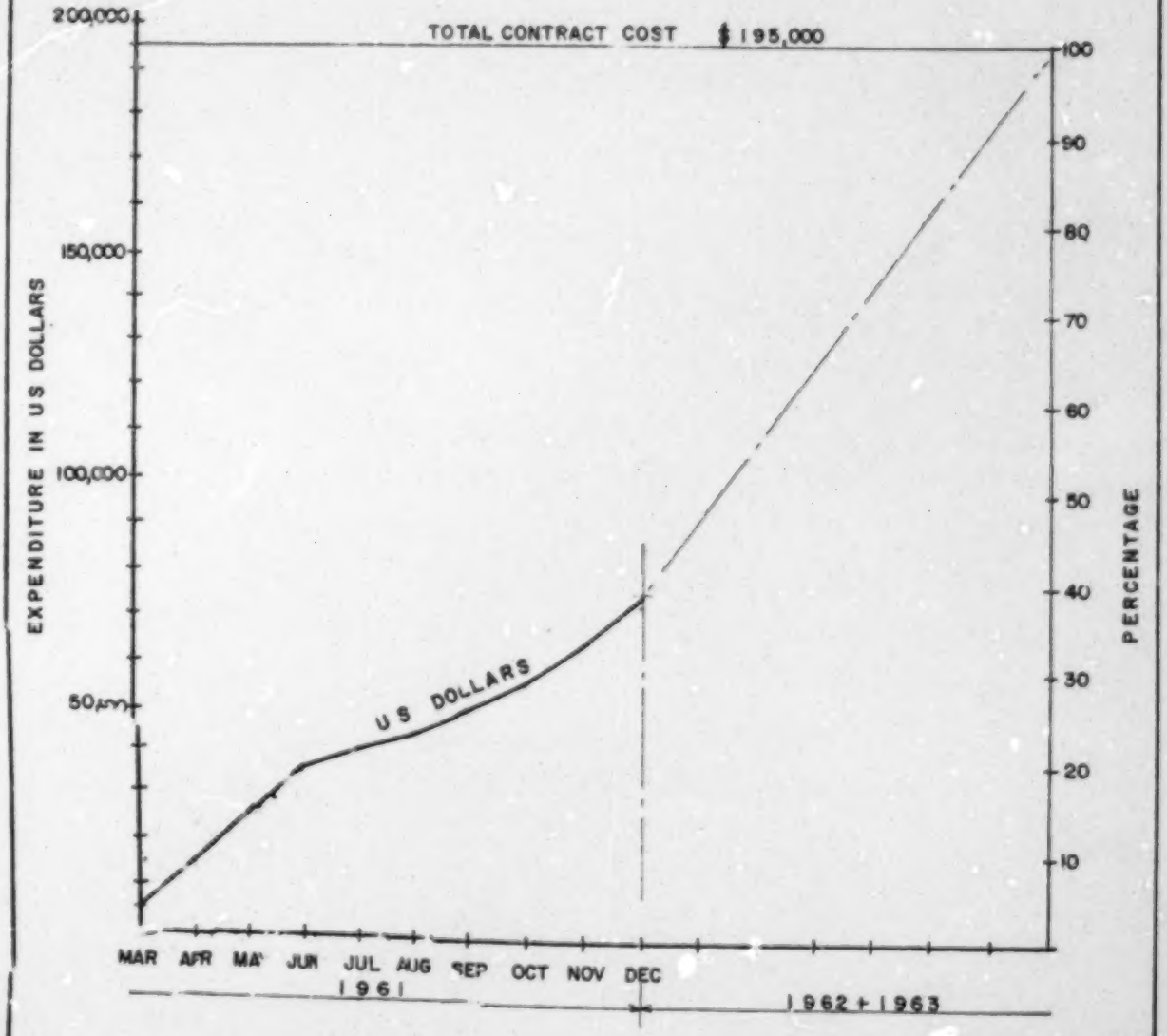
Table B shows the percentage of progress for each item upto the end of every calendar month.

/NAMNGUM PROJECT
LAOS TABLE B

GRAPH A

BATTAMBANG PROJECT

CAMBODIA



CONTRACTOR — SOGREAH CORP.

BEGINNING OF CONTRACT 24 FEB 1961

DATE OF COMPLETION 24 JULY 1963

CONTRACT AMOUNT US $ 195,000

RIEL 915,000

NAM NGUM PROJECT
LAOS

TABLE

Percentage of each item of work completed to end of month

	% OF TOTAL	1961								
		APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1. MOBILIZATION OF STAFF	9.0	50	50	50	50	50	60	65	75	95
2. RECONNAISSANCE OF ENTIRE VIENTIANE PLAIN & MORE DETAILED RECONNAISSANCE OF SELECTED AREA	16.7	10	10	17	20	22	28	28	50	75
3. HYDROLOGIC OBSERVATION	7.0	0	7	22	28	34	46	53	59	65
4. GROUND CONTROL SURVEY FOR ADDITIONAL MAPS TO SERESA'S MAP AND CHECKING	3.1	0	12	40	42	49	50	50	56	63
5. SOIL SURVEY & AGRONOMIC INVESTIGATION	7.0	0	0	2	6	8	8	8	8	40
6. DETAILED SURVEY INCLUDING BORING OPERATION FOR SELECTED AREA	13.3	-	10	10	10	10	15	35	50	70
7. PRELIM.PLANNING, PREPARATION OF RECONNAISSANCE REPORT AND DISCUSSION WITH AUTHORITIES CONCERNED	18.4	-	-	-	10	15	15	15	20	30
8. MAPPING FROM AERIAL PHOTOS	3.1	-	-	5	5	5	10	20	25	35
9. ANALYZING OF HYDROLOGIC DATA & REQUIRED PRELIM. DESIGN	15.7	-	-	-	-	-	-	-	4	10
10. PREPARATION OF COMPREHENSIVE PROJECT FEASIBILTY REPORT	6.7	-	-	-	-	-	-	-	-	-
TOTAL JOB	100	6.2	8.4	11.7	14.8	16.9	20.4	20.4	33.3	47.9

CONTRACTOR - NIPPON KOEI CO. LTD.

Beginning of contract 17 Feb. 1961 Contract amount US$65,000

Completion of contract 17 Aug. 1962 Kips 1,400,000

Graph B shows the amounts of invoices in US dollars submitted by the contractor from the commencement of the work to the end of December 1961. The amount of billing is proportional to the progress of work.

Information regarding payment of local currency has not yet been received from the firm.

The report by the firm states that reconnaissance has been made on the whole of the Vientiane Plain by two agricultural engineers and the topographic survey at the site of Ban Tha Ngon on Nam Ngum is being carried out for the mapping of the project area. Soil survey and hydrological observations were continued. Ground control survey and prickings on aerial photos are being conducted on the main roads and surveying routes. Some of the work in this connection is being carried out in the Tokyo Office.

The contractor reported that topographical maps of about 600 sq. km, previously completed by Seresa were found to be inaccurate for the purpose of irrigation planning. This area would, therefore, have to be remapped and would involve an additional expenditure of about 17,500 US dollars, not covered by the contract. A request has already been made to the United Nations in New York to authorize the contractor to complete the mapping of this area at the additional cost, indicated by him.

It has not been possible for the "Project Engineer" to pay a visit either to the project site or the Head Office of the Consulting Engineers in Tokyo. He is thus not in a position to comment on the progress reported by the firm. He proposes to visit the Tokyo Office during the March Session of the Committee.

C. Nam Pong Project in Thailand

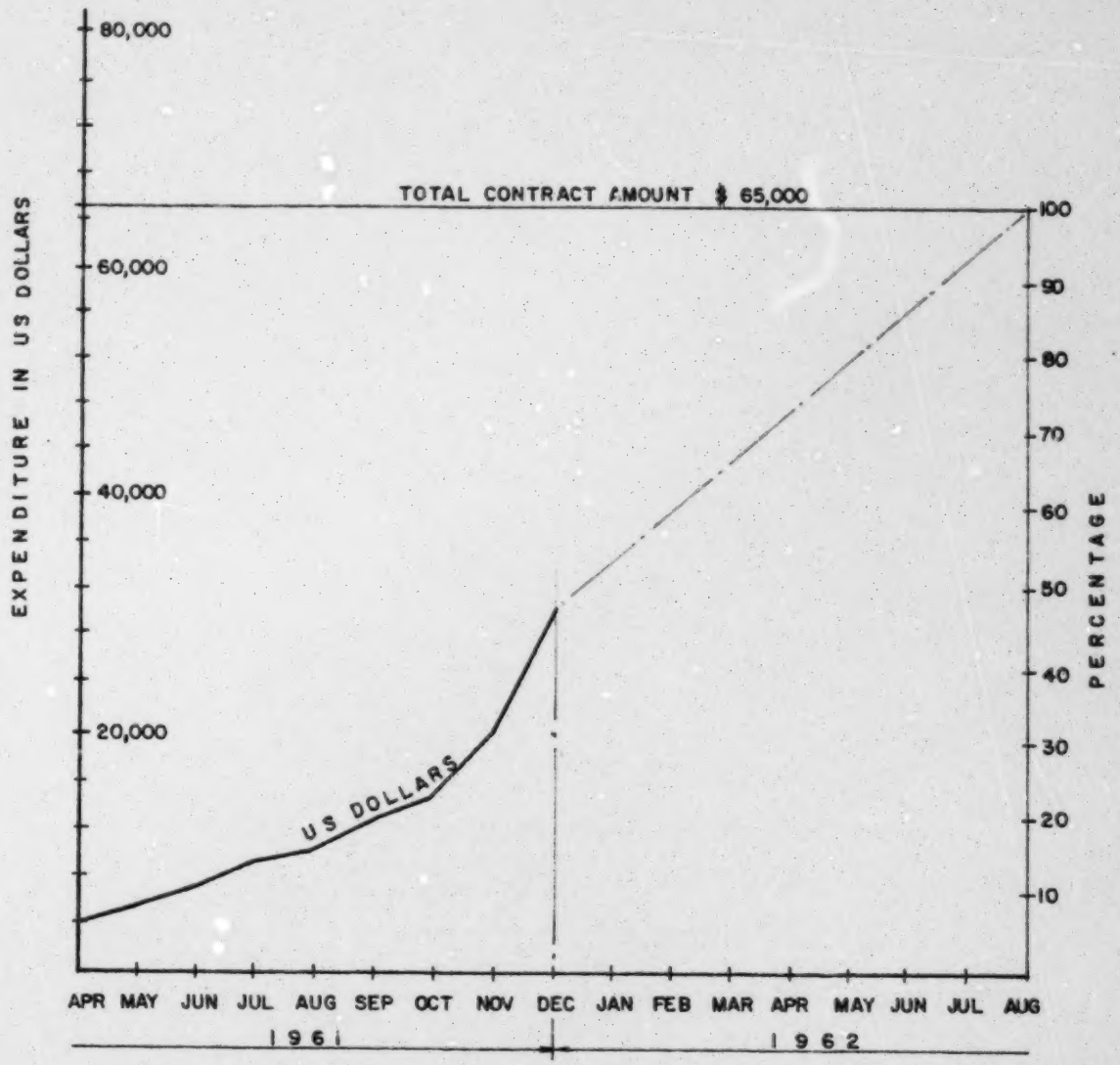
Estimated amount of contract	US$224,991 1,095,000 Bahts
Bills received up to end of December k961	US$198,647
Percentage of expenditure up to end December to total	88.3%

/All the field

GRAPH B

NAM NGUM PROJECT

LAOS



CONTRACTOR— NIPPON KOEI CO.LTD.

BEGINING OF CONTRACT	17 FEB 1961	CONTRACT AMOUNT	US $ 65,000
DATE OF COMPLETETION	17 AUG 1962		KIPS 1,400,000

All the field work has already been completed and design and Feasibility Report are being prepared in the Head Office of the Corporation in San Francisco.

Table C shows the percentage of progress for each item upto end of every calendar month.

/ NAM PONG PROJECT
THAILAND TABLE C

NAM PONG PROJECT
THAILAND

TABLE C

Percentage of each item of work completed to end of month

	% OF TOTAL	1960 OCT	NOV	DEC	1961 JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1. MOBILIZATION OF STAFF & EQUIPMENT	15.7					100	----------	----------	----------	COMPLETED	----------	----------	----------	----------	----------	----------
2. FIELD SURVEYS AND COLLECTION OF DATA	24.0					66.7	85.0		98.0	100	----------	----------	COMPLETED	----------	----------	----------
3. EXPLORATION AND LABORATORY TESTS	5.0					36	40		68	90	100	----------	----------	COMPLETED	----------	----------
4. ENGINEERING STUDIES IN SAN FRANCISCO	14.8					29.7	50		70.3	75	85	89	89	89	95.2	97
5. CONSULTANTS, FIELD AND OFFICE	9.0					24.5	25.5		65.5	65.5	65.5	65.5	65.5	65.5	80	82.2
6. PRELIM. DESIGNS & COST ESTIMATES	21.5						14.8		25.1	34.8	45.1	54.8	54.8	54.8	61.8	75
7. BENEFIT STUDIES & ECONOMICS	5.0											10	20	20	26	36
8. PREPARATION OF REPORT	3.0											6.6	33.3	50	50	66.6
TOTAL JOB	100				30.4	40.7	52	61.7	65.7	70.2	74.6	78.2	79.5	80	84	88.3

CONTRACTOR - ROGERS INTERNATIONAL CORPORATION

Beginning of contract 21 Oct. 1960

Completion of contract 21 Feb. 1962

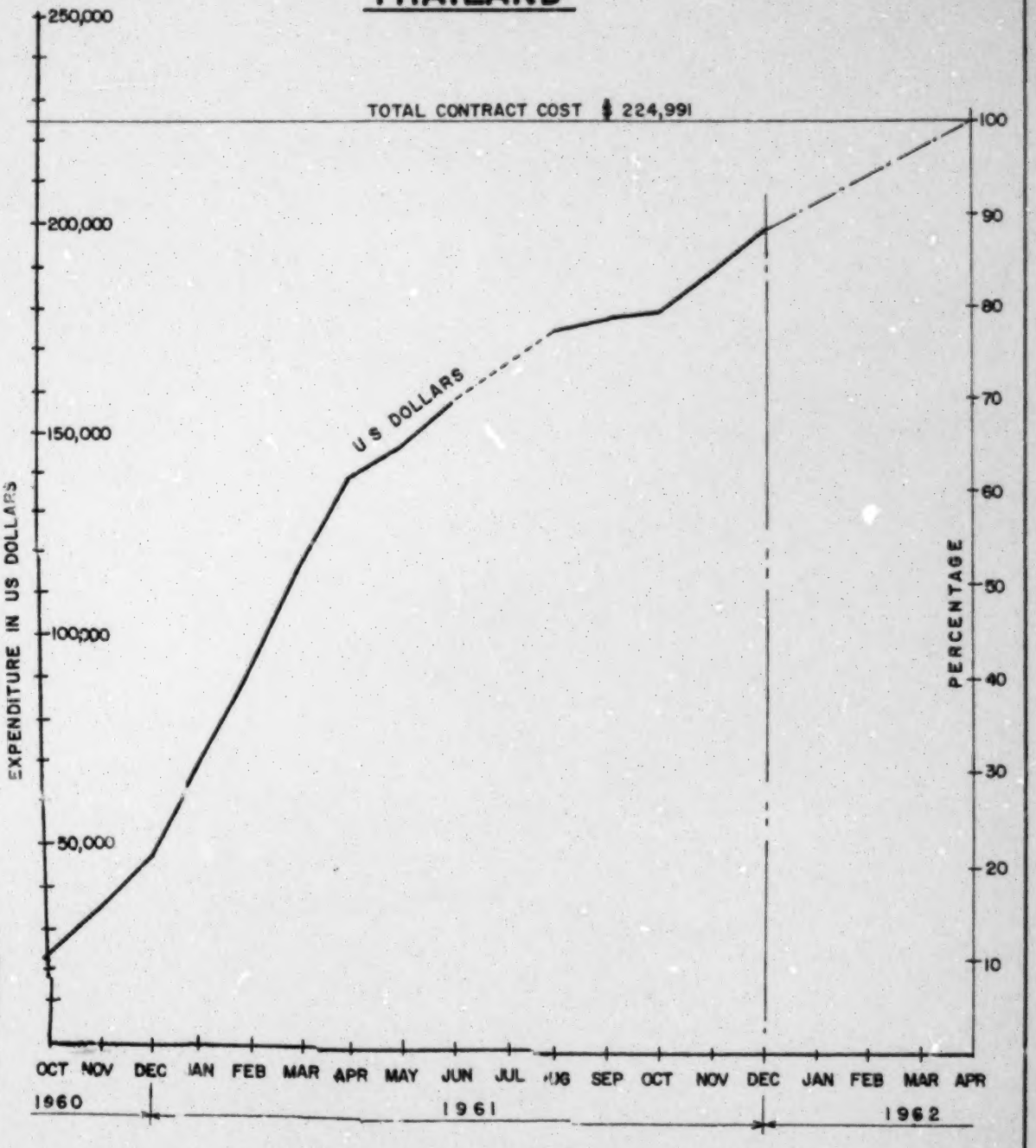
Extended date of completion 21 April 1962

Contract amount US$224,991
Baht 1,095,000

GRAPH C

NAM PONG PROJECT

THAILAND



CONTRACTOR — ROGERS INTERNATIONAL CORP.

BEGINING OF CONTRACT	21 OCT 1960	CONTRACT AMOUNT	US $ 224,991
DATE OF COMPLETETION	21 FEB 1962		BAHT 1,098,000
EXTENDED DATE OF COMPLTN.	21 APR. 1962		

Graph C shows the amount of invoices in US dollars submitted by the firm to the United Nations. These amounts are proportional to the progress of the work. It may be noted that the entire amount in local currency has been paid to the firm.

Due to late receipt of maps of areas to be irrigated, submission of the Project Report will be delayed by approximately two months. Now that they have received the maps, the firm has promised to make every effort to submit the report as soon as possible.

D. Upper Se San Project in Viêt-Nam

Estimated amount of contract	US$195,000 Piastres 1,382,500
Bills received up to end of December 1961	US$ 55,185
Percentage of expenditure up to end December to total	28.3%

Due to operational difficulties work has been hampered to a considerable extent. The question whether the work should be continued or suspended was considered at the Sixteenth Session of the Committee, held at Phnom Penh 3-8 January 1962. The Committee was pleased to learn from the Member for Viêt-Nam and the President of Nippon Koei Kabushiki Kaisha that they anticipated that the work of preparing the Comprehensive Project Report for the Upper Se San project, as envisaged in the UN Special Fund Plan of Operation, could continue satisfactorily. Good progress has been made during the month of December.

Table D shows the percentage of progress for each item upto end of every calendar month.

/ UPPER SE SAN PROJECT
VIET-NAM TABLE D

UPPER SE SAN PROJECT
VIET-NAM

TABLE D

Percentage of each item of work completed to end of month

	% OF TOTAL	1961						
		JUN	JUL	AUG	SEP	OCT	NOV	DEC
1. MOBILIZATION OF STAFF AND EQUIPMENT	9.0	-	0	25		50	60	70
2. RECONNAISSANCE SURVEY INCLUDING GROUND CONTROL FOR TOPOGRAPHIC MAPPING	19.3	-	-	-		10	30	100
3. HYDROLOGIC OBSERVTN	7.5	-	.	.	.	14	20	31
4. TOPOGRAPHIC MAPPING FROM US! PHOTO	4.3	-	-	-	-	-	-	-
5. SOIL SURVEY & AGRONOMIC INVESTIGATION	2.0	-	-	-	-	-	-	20
6. PRELIM. PLANNING, PREPARATION OF RECONNAISSANCE REPORT & DISCUSSION WITH AUTHORITIES CONCERNED	22.0	-	-	-	-	-	-	
7. DETAILED SURVEY INCLUDING BORING FOR SELECTED PROJECT	9.5							
8. SPOT LEVELLING & SETTING CONTOUR LINES ON THE MOSAIC TO BE FURNISHED BY CANADA FOR IRRIGABLE AREA	5.2							
9. ANALYZING OF HYDROLOGIC DATA & REQUIRED PRELIM. DESIGN	16.2							
10. PREPARATION OF COMPREHENSIVE PROJ. FEASIBILITY REPORT	5.0							
TOTAL JOB	100	-	.	.	.	7.5	13.1	28.3

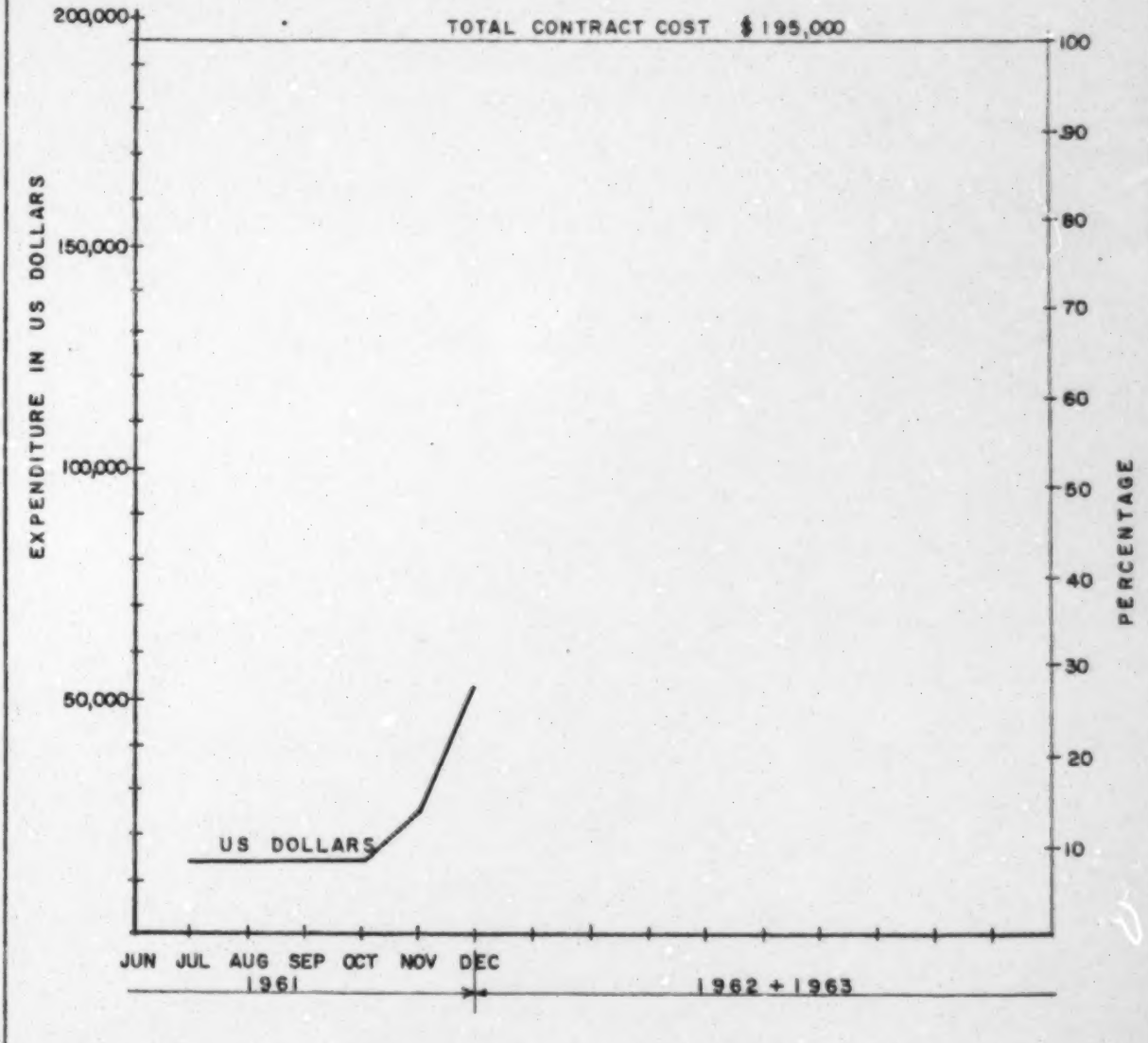
CONTRACTOR - NIPPON KOEI CO. LTD

Beginning of contract	29 June 1961	Contract amount	US$195,000
Completion of contract	29 October 1963		P.1,382,500

GRAPH D

UPPER SE SAN PROJECT

VIETNAM



CONTRACTOR – NIPPON KOEI CO. LTD.

BEGINING OF CONTRACT	29 JUNE 1962	CONTRACT AMOUNT	$ 195,000
DATE OF COMPLETETION	29 OCT 1963		PIASTRES 1,382,500

Graph D shows the amount of bills in US dollars submitted by the firm to the United Nations. These amounts are proportional to the progress of work. No information is yet available for the local contribution paid to the firm. On a reference from the Headquarters, it has been recommended, that payment of local contribution should continue to be made to the firm.

IX. CONCLUDING OBSERVATIONS

A. Battambang Project in Cambodia

From a study of the table and the graph referred to in Para VIII A, it may reasonably be expected that the report on the first phase of the Project will be completed by June 1962, four months after the schedule date, and the entire project will be completed by July 1963, i.e. the schedule date in the contract.

A discussion with the Project Manager of SOGREAH indicated that the expenditure incurred by the firm was about 12 percent more than the payment received by them. As the contract is for a fixed amount, the contractor would not be entitled for any additional payment, unless he can show special reasons for the additional expense, which were beyond his control.

A decision on the first phase of the Project shall have to be taken promptly, after the report is received from the contractor.

B. Nam Ngum Project in Laos

From a study of the table and the graph, referred to in Para VIII B, it may be anticipated that the contractor will complete the report by December 1962, i.e. four months after the schedule date, provided authorization to do the additional mapping for 600 sq. km at an additional cost of US$17,500 is conveyed to the firm by the middle of February. If the authorization for additional mapping is not conveyed by the above date, firms' engineers will leave Laos. In that case completion of the project will be delayed still further and would involve much more additional expenditure.

/C. Nam Pong

C. Nam Pong Project in Thailand

This project is most advanced and is expected by April 1962. Early action will have to be taken to scrutinize and accept the Report when received, so that arrangements can be made to find funds for construction of the Project.

D. Upper Se San Project in Viêt-Nam

Work on this project is behind schedule, due to conditions of security. The contractor is doing his best to continue with hydrological observations and such other work that his engineers can carry on. At the Sixteenth Session of the Committee, held in January 1962, it was felt that work on the project should not be suspended and should continue as well as is consistent with local conditions. The technical details of the project are also likely to undergo many changes in the light of actual hydrological observations. It is difficult to say whether the project will be completed by the schedule date in the contract.

General

It is presumed that two percent deduction made from monthly bills of the contractors will not be paid, until satisfactory completion of the firms' services and acceptance of the Feasibility Reports.